

WHAT IS CLAIMED IS:

CLAIMS

1. An apparatus for fusing toner to media, comprising:
a heating element operable to produce radiant energy;
a thermal spreader for converting said radiant energy into heat for fusing the
toner to the media, and
5 a reflector positioned to reflect a portion of said radiant energy toward said
thermal spreader.
2. The apparatus of Claim 1 wherein said heating element is a bulb
heater.
3. The apparatus of Claim 1 wherein said heating element is a ceramic
heater.
4. The apparatus of Claim 1 wherein said reflector has a paraboloidal
surface positioned to concentrate a portion of said radiant energy to said thermal
spreader.
5. The apparatus of Claim 1 wherein said reflector is faceted.
6. The apparatus of Claim 1 wherein said reflector is parabolic and
positioned with said heating element at its focus.

7. The apparatus of Claim 1 wherein said reflector is a paraboloidal trough and said heating element is linear and positioned along the focal line of said paraboloidal trough.

8. The apparatus of Claim 1 further comprising a fusing film disposed between said thermal spreader and the media.

9. The apparatus of Claim 8 wherein said fusing film is thermoplastic.

10. The apparatus of Claim 9 wherein said thermoplastic is Mylar coated with Teflon.

11. The apparatus of Claim 1 further comprising:
a fusing element and wherein
said heating element, said thermal spreader, and said reflector are disposed within said fusing element.

12. The apparatus of Claim 11 wherein said fusing element is rotatably supported and said heating element, said thermal spreader, and said reflector are fixed against rotation.

13. The apparatus of Claim 11 further comprising a pressure roller supported to urge the media against said fusing element.

14. The apparatus of Claim 11 wherein said pressure roller is driven to rotate.

15. A fusing unit for fusing toner to media, comprising:
a linear bulb heater element operable to produce radiant energy;
a paraboloidal trough reflector positioned with its focal line in alignment with
said linear bulb heater, said reflector operable to reflect and concentrate said radiant
5 energy;
a thermal spreader aligned to absorb said concentrated radiant energy and
convert it to heat;
a thermoplastic fusing roller rotatably supported about said heater, said
reflector and said spreader, and held in slideable contact with said spreader, and
10 a pressure roller supported to urge the media against said fusing roller and
driven to rotate, thereby advancing the media through the fusing unit to fuse the toner
thereto.

16. A method of fusing toner to media in a fusing unit having a heating
element, a thermal spreader, and a reflector, comprising the steps of:
radiating energy from the heating element;
concentrating said radiated energy to the thermal spreader by the reflector, and
5 conducting said heat by the thermal spreader to the toner and media.

17. The method of Claim 16 wherein said heating element is a bulb heater.
18. The method of Claim 16 wherein said heating element is a ceramic
heater.

19. The method of Claim 16 wherein the reflector has a paraboloidal
surface, and wherein said concentrating step is accomplished by reflecting said
radiated energy from the paraboloidal surface.

20. The method of Claim 19 wherein the paraboloidal surface is parabolic and positioned with the heating element at its focus.

21. The method of Claim 16 wherein a fusing film is disposed between the thermal spreader and the media, and wherein said conducting step includes conducting said heat through the fusing film.

22. The method of Claim 16 wherein the fusing unit includes fusing roller with the heating element, the thermal spreader, and the reflector disposed therein, and wherein the fusing unit includes a pressure roller supported to urge the media against fusing film at the position of the thermal spreader, further comprising the step of:

5 rotating the pressure roller and fusing roller to advance the media through the fusing unit.

23. A system for utilizing light produced by a user non-perceivable light source in a machine, comprising:

 a means for conveying light from the user non-perceivable light source to a location within the machine and

5 a component positioned at said location to receive the light conveyed by said means for conveying light, said component operable to utilize the light in a user perceivable manner.

24. The system of Claim 23 wherein the machine includes an opaque enclosure, and wherein:

 said means for conveying light is an unobstructed pathway from the user non-perceivable light source to said location, and

5 said component is positioned at an opening in the opaque enclosure.

25. The system of Claim 23 wherein said means for conveying light comprises a reflective surface operable to direct the light towards said location.

26. The system of Claim 23 wherein said means for conveying light comprises a light pipe.

27. The system of Claim 23 wherein said means for conveying light comprises a fiber optic.

28. The system of Claim 23 wherein said means for conveying light conveys light intermittently.

29. The system of Claim 28 wherein the machine includes a device characterized by periodic motion, and wherein
said means for conveying light conveys light intermittently according to the periodic movement of the device characterized by periodic motion.

30. The system of Claim 23 wherein said component is a translucent.

31. The system of Claim 23 wherein said component is a logo.

32. The system of Claim 23 wherein said component is a user interface indicator.

33. A printing device, comprising:
a fusing unit having a bulb heater that emits user non-perceivable light;
a means for conveying light from the bulb heater to a location within the printing device, and

5 a component positioned at said location to receive the light conveyed by said means conveying light, said component operable to utilize the light for illumination thereof in a user perceivable manner.

34. A method of utilizing light emitted from a user non-perceivable light source in a machine having a user perceivable component positioned at a location, comprising the steps of:

5 conveying light from the user non-perceivable light source to the location and illuminating the user perceivable component with said conveyed light.

35. The method of claim 34 wherein said conveying step is accomplished through an unobstructed pathway from the user non-perceivable light source to said location.

36. The method of Claim 34 wherein said conveying step includes the step of reflecting the light from a reflective surface toward the location.

37. The method of Claim 34 wherein said convey step is accomplished by using a light pipe.

38. The method of Claim 34 wherein said conveying step is accomplished by using a fiber optic.

39. The method of Claim 34 wherein said conveying step further comprises the step of intermittently conveying the light.

40. The method of Claim 34 wherein the machine includes a device characterized by periodic motion, and wherein said conveying step is accomplished

periodically according to the periodic movement of the device characterized by periodic motion.

41. The method of Claim 34 wherein the component is a translucent.
42. The method of Claim 34 wherein the component is a logo.
43. The method of Claim 34 wherein the component is a user interface indicator.